Request to Archive
With The National Centers for Environmental Information
For PERSIANN-CDR: Precipitation Estimation from Remotely Sensed Information using Artificial Neural Networks - Climate Data Record
Provided by UC-Irvine

2013-05-31

This information will be used by NCEI to conduct an appraisal and make a decision on the request.

1. Who is the primary point of contact for this request?

Soroosh Sorooshian

UC-IRVINE/CHRS > Center for Hydrometeorology and Remote Sensing, University of California, Irvine

Professor and Director

949-824-8825

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2. Name the organization or group responsible for creating the dataset.

UC-IRVINE/CHRS > Center for Hydrometeorology and Remote Sensing, University of California, Irvine

3. Provide an overview summarizing the scope of data you want to archive. Describe the outputs, data variables, including their measurement resolution and coverage.

PERSIANN Climate Data Record (PERSIANN-CDR) is a daily quasi-global precipitation product for the period of 1982 to 2011. The data covers from 60°S to 60°N and 0° to 360° longitude at 0.25 degree spatial resolution.

4. What is the time period covered by the dataset? (YYYY-MM-DD, YYYY-MM or YYYY)

From 1980

Ongoing as continuous updates to the data record

5. Edition or version number(s) of the dataset:

v01r00

6. Describe the level to which the data are processed. For example, are these unprocessed raw observations, derived parameters, quality controlled or inter-calibrated data, etc.?

They are derived parameter precipitation. As a pre-processing stage, To make GridSat data compatible with the input structure of the PERSIANN model, these data were resampled to a 0.25° resolution and filtered to remove data values out of range.

7. Approximate date when the dataset was or will be released to the public:

2013-06-01

8. Who are the expected users of the archived data? How will the archived data be used?

Climatologists, Hydrologists, Hydrometeorologists, Hydroclimatologists

9. Has the dataset undergone user evaluation and/or an independent review process? Did NCEI participate in design reviews?

No

10. Describe the dataset's relationship to other archived datasets, such as earlier versions or related source data. If this is a new version, how does it improve upon the previous version(s)?
GridSat IRWIN & GPCP v2.2 data as input sources to process PERSIANN-CDR

11. List the input datasets and ancillary information used to produce the data.
Gridded Satellite (GridSat-B1) IR data that are derived from merging ISCCP B1 IR data, along with GPCP version 2.2 are the main input to the processing.

12. List web pages and other links that provide information on the data.
The data will have the recommended CDR metadata standards complying with the CF 1.5 standard.

13. List the kinds of documents, metadata and code that are available for archiving. For example, data format specifications, user guides, algorithm documentation, metadata compliant with a standard such as ISO 19115, source code, platform/instrument metadata, data/process flow diagrams, etc.
1. C-ATBD PERSIANN Precipitation Climate Data Record submitted to NOAA NCDC CDR Program
2. Software with documentation and self documenting netCDF-4 data with metadata
3. Peer-reviewed Journal papers (such as PERSIANN-CDR: A 30-Year Multi-Satellite, High-Resolution, Near-Global, Daily Precipitation Data Record for Hydrological and Climate Studies)
4. Data flow diagram
5. http://chrs.web.uci.edu/research/satellite_precipitation/activities00.html

14. Indicate the data file format(s).
1. netCDF-4

15. Are the data files compressed?
netCDF4 built-in compression

16. Provide details on how the files are named and how they are organized (e.g., file_name_pattern_YYYYMM.tar in monthly aggregations).
PERSIANN-CDR_v01r00_YYYMMDD.nc

17. Explain how to access sample data files and/or a file listing for previewing. If it is not available now, when will it be available?
Sample data files are available through the following ftp link at CHRS server;
ftp://persiann.eng.uci.edu/pub/PERSIANN-CDR/

18. What is the total data volume to be submitted?
Historic Data: all historic data or data submitted as a completed collection.

Total Data Volume: 150GB
Number of Data Files: 12054

Continuous Data: data volume rate for a continuous data production.

Total Data Volume Rate: 42MB per Month
Data File Frequency: 30 per Month
Data Production Start: 2013-05-28

19. Are later updates, revisions or replacement files anticipated? If so, explain the conditions for submitting these additional data to the archive.

It is found that some bad/noisy data from the input source (GridSat-B1 IRWIN) need to be processed. PERSIANN-CDR v01r00, the initial PERSIANN-CDR submission, is based on version v2 of the GridSat CDR which contains problems. Revised PERSIANN-CDR versions may be reprocessed with newer GridSat versions or enhanced cleaning/filtering techniques of the IR data. Updates to extend the PCDR data set are also anticipated, pending adequate funding.

20. Describe the server that will connect to the ingest server at NCEI for submitting the data.

Physical Location: UC-IRVINE/CHRS > Center for Hydrometeorology and Remote
                          Sensing, University of California, Irvine, CA, 92697, USA
System Name: persiann.eng.uci.edu
System Owner: Soroosh Sorooshian
Additional Information: www.chrs.web.uci.edu

21. What are the possible methods for submitting the data to NCEI? Select all that apply.
1. FTP PULL
2. FTP PUSH

22. Identify how you would like NCEI to distribute the data. Web access support depends on the resources available for the dataset.
1. Direct download links
2. Advanced web services (e.g., THREDDS Catalog Service)

23. Will there be any distribution, usage, or other restrictions that apply to the data in the archive?

No known constraints apply to the data.

24. Discuss the rationale for archiving the dataset and the anticipated benefits. Mention any risks associated with not archiving the dataset at NCEI.

Precipitation is a key variable of land surface hydrologic process. A quasi-global data set (60°S-60°N) precipitation CDR can be very helpful for climate analysis, especially relevant to the extreme event (flood and drought) analysis. This data can be used for studying the trend and variability of precipitation over the past 30 years from regional to global scales. The data provided at daily 0.25-degree spatial and temporal resolution is unique.

25. Are the data archived at another facility or are there plans to do so? Please explain.

UC-IRVINE/CHRS > Center for Hydrometeorology and Remote Sensing, University of California, Irvine, CA, 92697, USA

26. Is there an existing agreement or requirement driving this request to archive? Have you already contacted someone at NCEI?

No

27. Do you have a data management plan for your data?

No

28. Have funds been allocated to archive the data at NCEI?

No

29. Identify the affiliated research project, its sponsor, and any project/grant ID as applicable.

Project Title: Satellite Data Support for Hydrologic and Water Resources Planning and Management. Sponsor: NOAA;

30. Is there a desired deadline for NCEI to archive and provide access to the data?

Archive by: 2013-06-01

Accessible by:

31. Add any other pertinent information for this request.

Regarding question number 17, PERSIANN-CDR data (depending on next year of funding) will be updated monthly assuming the required input data is available.